

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/071607 A1

(51) International Patent Classification⁷: **G06K 19/07**,
B42D 15/02, H01L 27/12

(21) International Application Number:
PCT/JP2005/001040

(22) International Filing Date: 20 January 2005 (20.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004-015537 23 January 2004 (23.01.2004) JP

(71) Applicant (for all designated States except US): SEMI-
CONDUCTOR ENERGY LABORATORY CO., LTD.
[JP/JP]; 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ARAI, Yasuyuki
[JP/JP]; c/o SEMICONDUCTOR ENERGY LABORA-
TORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa,

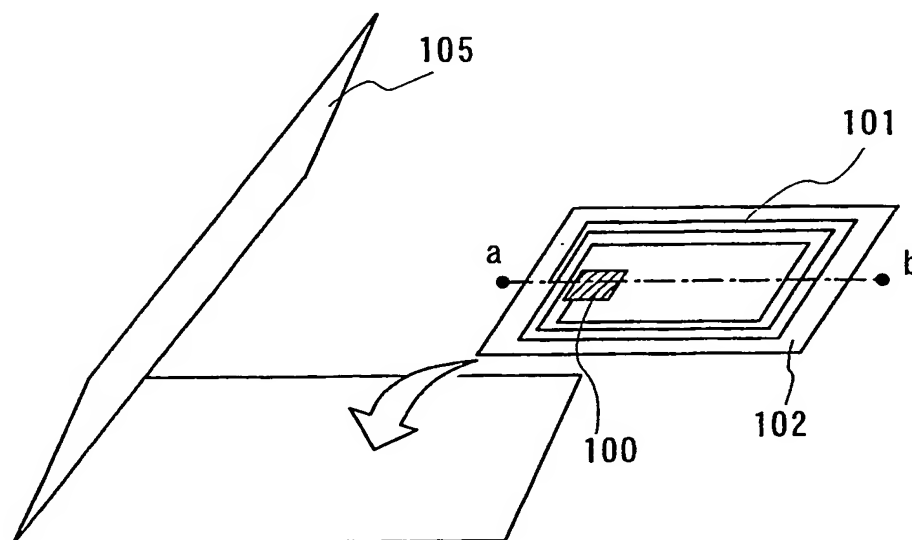
2430036 (JP). AKIBA, Mai [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP). KANNO, Yohei [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP). TACHIMURA, Yuko [JP/JP]; c/o SEMICONDUCTOR ENERGY LABORATORY CO., LTD., 398, Hase, Atsugi-shi, Kanagawa, 2430036 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: FILM-LIKE ARTICLE AND METHOD FOR MANUFACTURING THE SAME



(57) Abstract: Since the chip formed from a silicon wafer is thick, the chip is protruded from the surface or the chip is so large that it can be seen through the eyes, which affects the design of a business card or the like. Hence, it is an object of the present invention to provide a new integrated circuit which has a structure by which the design is not affected. In view of the above problems, it is a feature of the invention to equip a film-like article with a thin film integrated circuit. It is another feature of the invention that the IDI chip has a semiconductor film of 0.2 mm or less, as an active region. Therefore, the IDI chip can be made thinner as compared with a chip formed from a silicon wafer. In addition, such an integrated circuit can have light transmitting characteristic unlike a chip formed from a silicon wafer.

WO 2005/071607 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.